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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/773,418	02/01/2001	Richard J. Caldwell	PHGB000010	8507

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EXAMINER

MILLS, DONALD L

ART UNIT	PAPER NUMBER
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2616

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

A

Office Action Summary

Application No.

09/773,418

Applicant(s)

CALDWELL ET AL.

Examiner

Donald L. Mills

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 5, 7, 9, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (US 5,995,500), hereinafter referred to as Ma, in view of Kleider et al. (US 6,084,919), hereinafter referred to as Kleider.

Regarding claims 1, 3, and 7, Ma discloses communicating on a direct mode channel, which comprises *a controller and a plurality of stations* (Referring to Figures 1 and 2, MSC 12 and mobile stations 14) *each station comprising transmission and reception circuitry* (Referring to Figure 5, Tx/Rx 54/56,) *in which peer-to-peer communication between stations takes place in time slots allocated by the controller* (Referring to Figures 1 and 2, direct mode communication, peer-to-peer, between mobile stations 14 using an appropriate time slot determined by MSC 12. See column 7, lines 1-10.) *A receiving station having means for storing information relating to a transmission parameter of each of the others of the plurality of stations and configured to form, and record, a respective parameter history for each of the plural stations from which said receiving station has received a prior transmission* (Referring to Figure 2, mobile stations 14 determine whether the calling and the called mobile stations are in-range or out-of-range from each. See column 8, lines 19-22. To determine whether the mobile stations are in-range or out-

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of-range, the RSSI (received signal strength indicator) signal (parameter from prior transmission) is compared to a threshold (parameter history for each station), which requires storage for such a comparison to be performed for the mobile stations. See column 8, lines 22-24.)

MA does not disclose *means for adjusting the receiver circuitry prior to reception of a signal from a transmitting station using parameter history of the transmitting station.*

Kleider teaches a communication unit having spectral adaptability with a receive unit 16 which comprises a signal memory 37, for storing the received signal (parameter history), and a spectrum analyzer/mode estimator (SAME) 34 (See column 5, lines 21-25.) The SAME 34 is used to dynamically adjust receive parameters, such as channel detection thresholds in a multi-channel receiver embodiment before the next signal is received (prior to reception), based upon the profile of the received signal spectrum (See column 5, lines 39-42.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the spectral adaptability of Kleider in the direct mode communication system of MA. One of ordinary skill in the art would have been motivated to do so in order to reduce the effects of interference from another system on a data signal or existing signals utilized by multiple subscribers during direct communication in order to maximize direct communication capabilities as taught by Ma (See column 3, lines 25-33.)

Regarding claims 5 and 9, the primary reference further teaches *the transmission parameter as the signal strength of signals from the transmitting station* (Referring to Figures 1 and 2, to determine whether the mobile stations 14 are in-range or out-of-range, the RSSI (received signal strength indicator) (parameter) signal is compared to a threshold (parameter

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history for each station), which requires storage for such a comparison to be performed. See column 8, lines 22-24.)

Regarding claim 11 as explained above in the rejection statement of claim 1, Ma and Kleider teach all of the claim limitations of claim 1 (parent claim)

Ma does not disclose *wherein the parameter history includes information from a number of previous transmissions by the other stations.*

Kleider teaches a communication unit having spectral adaptability with a receive unit 16 which comprises a signal memory 37, for storing the received signal (parameter history), and a spectrum analyzer/mode estimator (SAME) 34 (See column 5, lines 21-25.) The SAME 34 is used to dynamically adjust receive parameters, such as channel detection thresholds in a multi-channel receiver embodiment before the next signal is received, based upon the profile of the received signal spectrum (number of previous transmissions) (See column 5, lines 39-42.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the spectral adaptability of Kleider in the direct mode communication system of MA. One of ordinary skill in the art would have been motivated to do so in order to reduce the effects of interference from another system on a data signal or existing signals utilized by multiple subscribers during direct communication in order to maximize direct communication capabilities as taught by Ma (See column 3, lines 25-33.)

Regarding claims 12 and 13 as explained above in the rejection statement of claims 1 and 3; Ma and Kleider teach all of the claim limitations of claims 1 and 3 (parent claims).

Ma does not disclose *wherein said means for adjusting performs said adjusting if said receiving station has received the respective prior transmission.*

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Kleider teaches a communication unit having spectral adaptability with a receive unit 16 which comprises a signal memory 37, for storing the received signal (parameter history), and a spectrum analyzer/mode estimator (SAME) 34 (See column 5, lines 21-25.) The SAME 34 is used to dynamically adjust receive parameters, such as channel detection thresholds in a multi-channel receiver embodiment before the next signal is received (prior to reception), based upon the profile of the received signal spectrum (See column 5, lines 39-42.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the spectral adaptability of Kleider in the direct mode communication system of MA. One of ordinary skill in the art would have been motivated to do so in order to reduce the effects of interference from another system on a data signal or existing signals utilized by multiple subscribers during direct communication in order to maximize direct communication capabilities as taught by Ma (See column 3, lines 25-33.)

3. Claims 2, 4, 6, 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (US 5,995,500), hereinafter referred to as Ma, in view of Kleider et al. (US 6,084,919), hereinafter referred to as Kleider, further in view of Fischer (US 5,371,734).

Regarding claims 2, 6, and 10 as explained above in the rejection statement of claim 1, Ma and Kleider teach all of the claim limitations of claim 1 (parent claim).

Ma does not disclose *storing a plurality of values for each transmission parameter relating to signals received at different times and operating on a plurality of these values to compensate for drift in the value of the transmission parameter.*

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Fischer teaches that each remote communicator must repeatedly measure the time, from receipt of the information frame until the interval of interest, using the appropriate count of BTIs from the body of the information in order to resynchronize the internal clock to compensate for drift (See column 28, lines 3-15 and 28-32.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the synchronization method of Fischer in the system of Ma. One of ordinary skill in the art would have been motivated to do so in order to compensate for drift in direct mode communication as taught by Fischer (See column 28, lines 11-15.)

Regarding claims 4 and 8 as explained above in the rejection statement of claims 3 and 7; Ma and Kleider teach all of the claim limitations of claims 3 and 7 (parent claims).

Ma does not disclose the *transmission parameter as the frequency offset of signals from the transmitting station*.

Fischer teaches that each remote communicator must repeatedly measure the time, from receipt of the information frame until the interval of interest (frequency offset), using the appropriate count of BTIs from the body of the information in order to resynchronize the internal clock to compensate for drift (See column 28, lines 3-15 and 28-32.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the synchronization method of Fischer in the system of Ma. One of ordinary skill in the art would have been motivated to do so in order to compensate for drift in direct mode communication as taught by Fischer (See column 28, lines 11-15.)

Response to Arguments

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4. Applicant's arguments filed 16 February 2006 have been fully considered but they are not persuasive.

Rejection Under 35 USC 103

On page 6 of the remarks, regarding claims 1, 3, and 7, the Applicant argues neither Ma nor Kleider disclose, teach, or otherwise make obvious *a receiving station configured to form and record a respective parameter history for each of the plural stations from which said receiving station has received a prior transmission*. The Examiner respectfully disagrees. Ma discloses, referring to Figure 2, mobile stations 14 determine whether the calling and the called mobile stations are in-range or out-of-range from each (See column 8, lines 19-22.) To determine whether the mobile stations are in-range or out-of-range, the RSSI (received signal strength indicator) signal (parameter from prior transmission) from the mobile stations are compared to a threshold (parameter history for each station), which requires storage for such a comparison to be performed for the mobile stations that have transmitted (See column 8, lines 22-24.) In order for the mobile station to make the determination that another mobile station is in-range or out-of-range they must record a RSSI based upon the received transmission (prior). Therefore, Ma discloses *a receiving station configured to form and record a respective parameter history for each of the plural stations from which said receiving station has received a prior transmission*. In addition, the Applicant argues Kleider's interference reduction does not disclose or suggest separate histories by station. However, this limitation is not expressed in the claims. The claims merely suggest forming a record of data from mobile stations based upon their received transmission, not logging separate histories for each station.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Mills whose telephone number is 571-272-3094. The examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Donald L Mills

DEM

May 12, 2006

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